



## ABSTRACT

A method to linearly measure the flow of a gas in ducts, and a gas flow sensor using such a method are disclosed. In order to obtain a linear ratio between the differential pressure and the volumetric flow of a gas, a rectangular section elbow and a rectangular flexible plate located inside the elbow are used. When the flow goes through the duct

- linearization is obtained by combining the resistance of the duct and a variable-area
- obstruction caused by the plate. With linearization, it is possible to expand the
- measurement range of the gas flow in one duct. The sensor developed is used especially
- for the measurement of respiratory flow in medical applications.